1851MNRAS..11..204.

DURHAM. Fraunhofer Equatoreal. (Mr. R. C. Carrington.)

1851.	Green. M.T. h m s	R.A. h m s	Log $\frac{p}{P}$	N.P.D. ° ′ ″	Log $\frac{q}{P}$	No. of Comps. in R.A.	N.P.D.	Set.
Sept. 12	8 9 0·0	18 14 4·27	+8·172	112 59 54·6	−9·9820	4	4	1
13	8 12 33·8	14 40·23	8·158	56 21·9	9·9824	24	8	2
15	8 25 0·1*	15 57·82	8·245	49 31·2	9·9791	24	8	3
21	8 20 27·4	18 20 18·30	+8·301	112 28 33·8	−9·9757	21	7	4

P is the equatoreal horizontal parallax in seconds of arc; *p* and *q* are the required corrections in time and arc respectively.

Mean Places of Stars of Comparison, 1851·0.

Name.	R.A. h m s	N.P.D. ° ′ ″	Set.
Lalande, H.C. 33885	18 16 6·25	113 3 14·3	1, 2
B.A.C. 6222	13 1·92	112 59 14·9	3
Lalande, H.C. 34222	18 23 31·37	112 23 38·5	4

Bessel's precessions for the mean year have been applied to Lalande's stars, and not those given in the reduction by Baily.

Elements.

I. Professor Encke.*

	° ′ ″	
M	172 10 21·6	1851, Aug. 5, 0h Berlin M.T.
π	112 18 15·6	
☊	292 51 1·8	
i	13 0 18·5	
φ	7 50 44·2	
Log *a*	0·380110	
μ	954″·645	

II. MM. Westphal and Klinkerfues, of Göttingen, from the Naples Observations of July 29, August 5, and August 12.

	° ′ ″	
M	170 40 26·5	1851, Aug. 5, 0h Berlin M.T.
π	113 25 14·5	True Equinox, August 5.
☊	292 48 47·9	
i	13 3 5·8	
Log *a*	0·3803271	
Log *e*	9·1391746	
Log μ	2·9795160	

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* These elements are calculated on the Naples Observations to August 12, which they represent very fairly: the Professor also calculated an approximate ephemeris for the immediate use of observers, which is omitted.

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1851MNRAS..11..205R

III. Signore Trattenero, of Padova, from the Naples Observations of July 29, Aug. 10, and the Padova Observation of Aug. 21.

	° ′ ″	
M	240 36 39·9	1851, July 30, 0h Green. M.T.
ϖ	56 23 14·4	Mean Equinox, July 30.
☊	293 42 6·3	
i	12 1 34·2	
φ	7 13 54·3	
Log a	0·393714	
μ	910″·82	

IV. By Mr. G. Rümker, from the Naples Observation of July 29 and the Hamburg Observations of Aug. 29 and Sept. 27.

	° ′ ″	
M	293 49 51·49	Oct. 1, 0h G.M.T. 1851.
ϖ	27 35 37·57	M. Eq. Jan. 0, 1851.
☊	293 52 54·76	
i	11 43 42·75	
φ	10 51 34·29	
e	0·1884017	
Log a	0·4228496	
Log μ	2·9157322	

These elements represent the middle observations, thus:—

Computation—Observation = { −0″·07 in Longitude. 0·00 in Latitude.

Ephemeris.

Computed from the above Elements by M. G. Rümker.

For 9d 36m Greenwich M. Time.

1851.		R.A.	Decl.	Log Δ.	1851.		R.A.	Decl.	Log Δ.
		h m s	° ′				h m s	° ′	
ct.	1	18 29 22	−21 53·9	0·37080	Oct.	16	18 46 21	−20 59·9	
	2	30 23	50·5			17	47 36	56·1	0·40207
	3	31 25	47·0			18	48 53	52·3	
	4	32 28	43·5			19	50 10	48·3	
	5	33 32	40·0	0·37893		20	51 28	44·4	
	6	34 37	36·5			21	52 47	40·4	0·40935
	7	35 43	32·9			22	54 6	36·4	
	8	36 50	29·4			23	55 27	32·2	
	9	37 57	25·8	0·38684		24	56 49	28·1	
	10	39 6	22·2			25	58 11	24·0	0·41637
	11	40 16	18·5			26	18 59 34	19·8	
	12	41 27	14·9			27	19 0 58	15·6	
	13	42 39	11·1	0·39456		28	2 22	11·3	
	14	43 52	7·4			29	3 47	7·0	0·42314
t.	15	18 45 6	−21 3·6		Oct.	30	19 5 13	−20 2·5	

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